



MDMF (CWB)

Select 3D Printing Process / Printers

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As a general rule of thumb, user can select the best 3D printing process / 3D printers by referring to the required Use of Model, Dimensional Tolerances, Minimum Layer Thickness (i.e. the smoothness of printed surface), Tensile Strength, Elongation to Break and Heat Deflection Temperature.

A) Use of Model		
Use of Model	Technology	Printers
Form Check	FDM / FFF	Raise3D Pro 2 / MD-6H / UpBox
Functional Check / Proof of Concept	SLA / MJF / DMLS	Form 2 / Form 3L / J850 PRIME / JF540 / DMP Flex 100
Visual Appearance and Aesthetics	SLA	Form 2 / Form 3L / J850 (Full Color)

B) Dimensional Tolerances		
Dimensional Tolerances (mm)	Technology	Printers
± 0.5	FDM / FFF	Raise3D Pro 2 / MD-6H / UpBox
± 0.3	SLA / MJF	Form 2
± 0.2	SLA / MJF	JF540
± 0.1	SLA / DMLS	Form 3L / J850 / DMP Flex 100

C) Minimum Layer Thickness		
Minimum Layer Thickness (mm)	Technology	Printers
0.1	FDM / FFF	UpBox
0.08	MJF	JF540
0.05	FDM / FFF	Raise3D Pro 2 / MD-6H
0.025	SLA	Form 2 / Form 3L
0.015	SLA / DMLS	J850 / DMP Flex 100

D) Tensile Strength		
Tensile Strength (MPa)	Technology	Printers
~ 35	FDM / FFF	(ABS) Raise3D Pro 2 / MD-6H / UpBox
~ 50	FDM / FFF / SLA / MJF	(PLA) Raise3D Pro 2 / MD-6H / UpBox; (Vero) J850; (PA12) JF540
~ 60	FDM / FFF / SLA	(PC) Raise3D Pro 2 / MD-6H / UpBox; (Standard / High Temp) Form 2 / Form 3L
~ 90	FDM / FFF	(PPA) Raise3D Pro 2 / MD-6H / UpBox
~ 530	DMLS	(316L) DMP Flex 100



E) Elongation to Break		
Elongation to Break (%)	Technology	Printers
~ 3	FDM / FFF / SLA / MJF	(ABS / PLA / PPA) Raise3D Pro 2 / MD-6H / UpBox; (High Temp) Form 2 / Form 3L
~ 6	SLA	(Standard) Form 2 / Form 3L; (Vero) J850
~ 12	FDM / FFF	(PC) Raise3D Pro 2 / MD-6H / UpBox
~ 20	MJF	(PA12) JF540
~ 34	DMLS	(316L) DMP Flex 100
~ 220	SLA	(Agilus30) J850

F) Heat Deflection Temperature		
Heat Deflection Temperature (°C)	Technology	Printers
~ 50	SLA	(Vero) J850
~ 60	FDM / FFF / SLA	(ABS / PLA / PC) Raise3D Pro 2 / MD-6H / UpBox; (Standard) Form 2 / Form 3L
~ 100	FDM / FFF	(PPA) Raise3D Pro 2
~ 175	MJF	(PA12) JF540
~ 230	SLA	(High Temp) Form 2 / Form 3L